

VITA (Short version—Full version available by request)

Tyson R. Browning

Current appointment (since April 2015):

Professor of Operations Management

Department of Information Systems and Supply Chain Management

Neeley School of Business, Texas Christian University

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I. [Education](#)

II. [Research](#)

III. [Teaching](#)

IV. [Service](#)

V. [Industry Experience](#)

I. Education

Massachusetts Institute of Technology

Cambridge, Massachusetts

Ph.D. 1999 *Technology, Management and Policy* (Engineering Management)

S.M. 1996 *Aeronautics and Astronautics* (Systems Engineering)

S.M. 1996 *Technology and Policy*

Abilene Christian University

Abilene, Texas

B.S. 1993 *Engineering Physics* (with University Honors)

International Travel: Asia: China, Israel, Japan, Jordan, Singapore, Thailand; Australia, New Zealand; Europe: Austria, Belgium, Croatia, Finland, France, Germany, Ireland, Italy, Liechtenstein, Netherlands, Romania, Russia, Spain, Sweden, Switzerland, United Kingdom; North America: Canada, Mexico, St. Kitts & Nevis; South America: Brazil

II. Research

II.1 Impact Measures

As of October 26, 2017 via [Google Scholar](#)

Total citations: 6,100 (3,488 since 2012)

h-index: 32 (i.e., 32 papers with at least 32 citations each)

II.2 Current Interests

- Managing complex technical projects and programs
- Process modeling, analysis, and improvement (including Lean and Six Sigma)
- Architectures of complex projects, products, processes, and organizations
- Design Structure Matrix (DSM)
- Risk management
- Management of innovation and product development
- Enterprise processes

II.3 Publications Summary

Home Department's Premier Journals:

Decision Sciences (x2)

Journal of Operations Management (x3)
Manufacturing & Service Operations Management
Production & Operations Management

Other Journals:

California Management Review
Center for Quality of Management Journal
Computers & Industrial Engineering
IEEE Transactions on Engineering Management (x7)
International Journal of Production Economics
International Journal of Project Management (x2)
Journal of Enterprise Transformation
Journal of Integrated Design & Process Science
Journal of Mechanical Design (x2)
Journal of Scheduling
MIT Sloan Management Review
Quality Control and Applied Statistics (x2)
Project Management Journal
Research in Engineering Design
Research-Technology Management
Science and Engineering Ethics
Systems Engineering (x9)

II.4 Main Publications

- P37 Engel, Avner, **Tyson R. Browning**, and Yoram Reich (2017) "Designing Products for Adaptability: Insights from Four Industrial Cases," *Decision Sciences*, **48**(5): 875-917.
- P34 **Browning, Tyson R.** and Ali A. Yassine (2016) "Managing a Portfolio of Product Development Projects under Resource Constraints," *Decision Sciences*, **47**(2): 333-372.
- P33 **Browning, Tyson R.** (2016) "Design Structure Matrix Extensions and Innovations: A Survey and New Opportunities," *IEEE Transactions on Engineering Management*, **63**(1): 27-52.
- P32 Meier, Christoph, **Tyson R. Browning**, Ali A. Yassine, and Ulrich Walter (2015) "The Cost of Speed: Work Policies for Crashing and Overlapping in Product Development Projects," *IEEE Transactions on Engineering Management*, **62**(2): 237-255.
- P31 **Browning, Tyson R.** (2014) "A Quantitative Framework for Managing Project Value, Risk, and Opportunity," *IEEE Transactions on Engineering Management*, **61**(4): 583-598.
- P29 Ramasesh, Ranga V. and **Tyson R. Browning** (2014) "A Conceptual Framework for Tackling Knowable Unknown Unknowns in Project Management," *Journal of Operations Management*, **32**(4): 190-204.
- P26a Sosa, Manuel E., Jürgen Mihm, and **Tyson R. Browning** (2013) "Linking Cyclicalities and Product Quality," *Manufacturing & Service Operations Management*, **15**(3): 473-491.
- P25 **Browning, Tyson R.** and Nadia R. Sanders (2012) "Can Innovation Be Lean?" *California Management Review*, **54**(4): 5-19.
- P24 Sosa, Manuel E., Jürgen Mihm and **Tyson R. Browning** (2011) "Degree Distribution and Quality in Complex Engineered Systems," *Journal of Mechanical Design*, **133**(10): 101008 (15 pages).
- P22a **Browning, Tyson R.** (2010) "On the Alignment of the Purposes and Views of Process Models in Project Management," *Journal of Operations Management*, **28**(4): 316-332.
- P21 **Browning, Tyson R.** and Ali A. Yassine (2010) "A Random Generator of Resource-Constrained Multi-Project Network Problems," *Journal of Scheduling*, **13**(2): 143-161.
- P20 Lévárdy, Viktor and **Tyson R. Browning** (2009) "An Adaptive Process Model to Support Product Development Project Management," *IEEE Transactions on Engineering Management*, **56**(4): 600-620. **Top 5% of citations out of 2000+ articles in the 63-year history of IEEE-TEM (according to Web of Science, July 2016)**
- P19 **Browning, Tyson R.** (2009) "The Many Views of a Process: Towards a Process Architecture Framework for Product Development Processes," *Systems Engineering*, **12**(1): 69-90. **The most-cited article from the journal since 2009 (according to Web of Science, July 2016)**
- P18 **Browning, Tyson R.** and Ralph D. Heath (2009) "Reconceptualizing the Effects of Lean on Production Costs with Evidence from the F-22 Program," *Journal of Operations Management*, **27**(1): 23-44.

- P14 Meier, Christoph, Ali Yassine and **Tyson R. Browning** (2007) "Design Process Sequencing with Competent Genetic Algorithms," *Journal of Mechanical Design*, **129**(6): 566-585.
- P13 **Browning, Tyson R.** and Ranga V. Ramasesh (2007) "A Survey of Activity Network-based Process Models for Product Development Project Management," *Production and Operations Management*, **16**(2): 217-240. **The 13th-most-cited article out of 828 articles in POM since 2007 (according to Web of Science, July 2016)**
- P12 Danilovic, Mike and **Tyson R. Browning** (2007) "Managing Complex Product Development Projects with Design Structure Matrices and Domain Mapping Matrices," *International Journal of Project Management*, **25**(3): 300-314. **The most-cited article from the journal since 2007 (according to the journal's web site, 2012)**
- P11 **Browning, Tyson R.**, Ernst Fricke, and Herbert Negele (2006) "Key Concepts in Modeling Product Development Processes," *Systems Engineering*, **9**(2): 104-128. **The second-most-cited article out of 467 articles in the 18-year history of SE (Oosthuizen et al. 2016)**
- P9 **Browning, Tyson R.**, John J. Deyst, Steven D. Eppinger, and Daniel E. Whitney (2002) "Adding Value in Product Development by Creating Information and Reducing Risk," *IEEE Transactions on Engineering Management*, **49**(4): 443-458. **Top 3% of citations out of 2000+ articles in the 63-year history of IEEE-TEM (according to Web of Science, July 2016)**
- P8 **Browning, Tyson R.** and Steven D. Eppinger (2002) "Modeling Impacts of Process Architecture on Cost and Schedule Risk in Product Development," *IEEE Transactions on Engineering Management*, **49**(4): 428-442. **The sixth-most-cited article out of 2000+ articles in the 63-year history of IEEE-TEM (according to Web of Science, July 2016)**
- P7 **Browning, Tyson R.** (2002) "Process Integration Using the Design Structure Matrix," *Systems Engineering*, **5**(3): 180-193. **The ninth-most-cited article out of 467 articles in the 18-year history of SE (Oosthuizen et al. 2016)**
- P6 **Browning, Tyson R.** (2001) "Applying the Design Structure Matrix to System Decomposition and Integration Problems: A Review and New Directions," *IEEE Transactions on Engineering Management*, **48**(3): 292-306. **The third-most-cited article out of 2000+ articles in the 63-year history of IEEE-TEM (according to Web of Science, July 2016); also cited by four patents (IEEE Xplore)**
- O30 **Browning, Tyson R.** (2017) "Project Design and Management," Chapter 11 in Starr, Martin K. and Sushil K. Gupta, Eds., *The Routledge Companion to Production and Operations Management*, New York: Routledge.
- O26 **Browning, Tyson R.** and Ranga V. Ramasesh (2015) "Reducing Unwelcome Surprises in Project Management," *MIT Sloan Management Review*, **56**(3): 53-62.
- O20 Eppinger, Steven D. and **Tyson R. Browning** (2012) *Design Structure Matrix Methods and Applications*, Cambridge, MA: MIT Press.
 - Japanese edition (2014)

II.5 Invited Presentations at Other Universities

These presentations are in addition to those of conference papers.

Aalto University (Helsinki, Finland)
 Boston University
 Clemson University
 École Centrale Paris (France)
 George Washington University
 INSEAD (Fontainebleau, France)
 Iowa State University
 Massachusetts Institute of Technology (x6)
 National University of Singapore (Singapore) (x2)
 Penn State University
 Queensland University of Technology (Brisbane, Australia) (x3)
 Royal Institute of Technology (Stockholm, Sweden)
 Southern Methodist University (x2)
 Stevens Institute of Technology
 Technical University of Munich (Germany) (x6)

Technion (Haifa, Israel)
University of Cambridge (UK) (x5)
University of Lugano (Switzerland)
University of Melbourne (Australia)
University of North Texas
University of Oklahoma
University of São Paulo (Brazil) (x2)
University of Texas at Dallas
University of Texas at El Paso
Virginia Tech
Xi'an Jiaotong University (China)

II.6 Research Grants

- Office of Naval Research (ONR), "Design Structure Matrix (DSM) Methods and Applications for Naval Ship Design," \$302,230 over 3 years, 2011-2014, principal investigator
- TCU Research and Creative Activity Fund (RCAF) Grants, 2003-2004 and 2004-2005
- Summer research support, TCU Neeley School of Business, 2003-present

II.7 Honors

- Papers P6, P7, P8, P9, P11, P12, P13, P18, P19, and P20 are among the most-cited papers from their respective journals
- Nominated by the Dean of the Neeley School of Business for the 2013 TCU Chancellor's Award for Distinguished Achievement as a Creative Teacher and Scholar

III. Teaching

III.1 Appointments

Neeley School of Business, Texas Christian University

Fort Worth, Texas

2015 – Present	Professor of Operations Management
2009 – 2015	Associate Professor of Operations Management
2003 – 2009	Assistant Professor of Operations Management

III.2 Courses Taught

III.2.1 Undergraduate Course

- INSC 40970 Supply Chain Process Analysis and Improvement: Fall, 2011

III.2.2 Graduate Courses (MBA/PMBA)

Current:

- INSC 60020 Managing Operations and Processes (1.5 units, Core): two sections each Fall, 2011-2016
- INSC 71003 Project Management (3.0 units, Elective): Spring, 2017
- INSC 71020 Six Sigma Green Belt for Managers (1.5 units, Elective): Winter 2009; each Summer, 2009-2011; each Spring, 2012-2017
- INSC 70130 Managing Risk and Uncertainty (1.5 units, Elective): each Spring, 2013-2017

Previous:

- INSC 60023 Manufacturing and Services Operations Management (Core): each Spring, 2004-2011
- INSC 70693 Master of Science in Supply Chain Management Field Study Project: each Spring, 2015-2016 (course coordinator, advisor to three students); Fall 2016 (advisor to one student)
- INSC 71000 Project Management (1.5 units, Elective): each Fall, 2004-2009; each Spring, 2012-2016
- INSC 71010 Program Management (Elective): each Fall, 2004-2009; each Spring, 2012-2016
- INSC 70970 Independent Study (Elective): four students, 2004, 2006-2008

III.2.3 International Course

- Doing Business in China (Hong Kong, Shenzhen, Dongguan, Guangzhou, Macau): Spring 2009

III.2.4 Executive Education Courses (TCU and External)

- Developing Operational Excellence: Fall 2006, Fall 2009
- Lean, Just-In-Time, and Inventory Management: Fall 2006
- Introduction to Project Management: Summer 2009, Fall 2012, Spring 2013
- Leading Process Improvement: Dec. 2013

- Six Sigma Green Belt Certification: May 2016, May 2017

III.3 Honors and Awards

- Neeley School Graduate Teaching Award – MBA electives, 2015
- Nominated by the Dean of the Neeley School of Business for the 2013 TCU Chancellor's Award for Distinguished Achievement as a Creative Teacher and Scholar
- Voted a "Favorite Professor" by the graduating MBA classes: 2013-2017
- Neeley School Graduate Teaching Award – MBA core, 2007
- Nominated by an MBA student for the "Wassenich Award for Mentoring in the TCU Community," 2005
- Appointed to TCU Neeley School Graduate Faculty, 2003-present

IV. Service

IV.1 Academic Committees

IV.1.1 Departmental Level

- Chair, department chair search committee: 2012-2013
- Chair, Assistant Professor and PPP search committees: 2014-2015
- Numerous departmental citizenship activities (research presentations, curriculum meetings, etc.)

IV.1.2 College/School Level

- Associate Dean for Graduate Programs, search committee (2016)
- Dean's Neeley School 2020 Strategic Planning Committee (2016)
- Faculty Evaluation Committee: 2013-2015
- Dean's Advisory Committee: 2009-2012
- Critical Thinking committee and START Workshop presenter: 2013-2015
- Nominating committee for Deans' Research and Teaching Awards, 2013
- Nominating committee for Chancellor's Award for Distinguished Achievement as a Creative Teacher and Scholar, 2014
- MBA Core Faculty: each Spring, 2004-2011; each Fall, 2011-present
- PMBA Core Faculty: each Spring, 2004-2006
- Numerous school citizenship activities (especially MBA events)

IV.2 Service to Professional Groups

IV.2.1 Boards and Advisory Groups

- Project Management Institute (PMI) Academic Member Advisory Group (AMAG), 2018-2021 term

IV.2.2 Editorial Positions

- *IEEE Transactions on Engineering Management*
 - **Department Editor**, 2014-2017
 - Editorial Board, 2010-2014
- *Journal of Operations Management*
 - **Co-Editor-in-Chief**, 2018-2020 (appointed)
 - Associate Editor, 2015-2017
 - Editorial Board, 2015-2017
- *Systems Engineering*
 - **Associate Editor (with DE-like duties)**, 2013-2017
 - Editorial Board, 2003-present
- *Journal of Modern Project Management*, Editorial Board, 2013-present
- *Complex and Enterprise Systems Engineering* (Taylor & Francis book series), Advisory Board, 2008-2012
- Guest co-editor (with Harvey Maylor, Jack Meredith, and Jonas Söderlund), special issue of the *International Journal of Operations and Production Management*, "Old Theories, New Contexts: Extending Operations Management Theories to Projects," forthcoming

IV.2.3 Ad-hoc Reviews for Journals (255 total manuscripts, inc. revisions)

IV.2.4 Conference Session Chair / Panelist / Discussant / Organizer Roles

- International Design Structure Matrix (DSM) Conference (annual): Program Chair, 2015; Local Chair (Host), 2015; Session Chair, 2003-2004, 2007-2017; Technical Co-Chair, 2005-2006; Program/Scientific Committee, 2009-2017
- POMS Wickham Skinner Award for Teaching Achievements, Award Committee Member, 2017

- DSI Annual Meeting: Track Chair for the R&D and NPD Track, 2016
- INFORMS Annual Conference: Session Organizer and Chair, 2005
- POMS Annual Conference: Discussant, 2008; Track Co-Chair for the Product Innovation and Technology Management track, 2009

IV.2.5 Society Officer Positions and Elected Roles

- Secretary, POMS College of Product Innovation and Technology Management, 2010-2012

V. Industry Experience

V.1 Full-Time Appointments

Lockheed Martin Aeronautics Company Fort Worth, Texas

Senior Project Manager, Integrated Company Operations, Architecture and Process Integration, 2000-2003.

Senior Specialist, Engineering, Advanced Process Integration, 1999-2000. Internal consulting and applied research.

Honeywell, Inc. Clearwater, Florida

Software Development Engineer, 1993

Summer Intern, Software Simulation Developer, 1990

V.2 Honors

- Special Recognition Award and bonus for “leading and supporting process improvements and increasing process awareness,” Lockheed Martin, Dec. 2000

V.3 Consulting Engagements

- Booz Allen Hamilton (McLean, VA), 2009 (government sector)
- BNSF Railway (Fort Worth, TX), 2010-2011 (transportation sector)
- Cs Solutions (Euleless, TX), 2007 (oil and gas exploration sector)
- D.H. Brown Associates (later CPD Associates; Port Chester, NY), 2003 (industry research sector)
- GenCorp AeroJet (now Northrop Grumman; El Segundo, CA), 2001 (aerospace sector)
- General Motors, Vehicle Development Research Lab (Warren, MI), 2007-2008 (automotive sector)
- Husch Blackwell LLP (Dallas, TX), 2017- (expert witness)
- Innosight/Boeing (Philadelphia, PA), 2013 (aerospace sector)
- Lhoist (Fort Worth, TX), 2014 (construction/commodities sector)
- Lockheed Martin Aeronautics Company (Fort Worth, TX), 2006 (aerospace sector)
- Lockheed Martin Corporation (Bethesda, MD), 2006, 2007 (complex systems sector)
- ReliabilityFirst (Akron, OH), 2012 (utilities sector)
- Seagate Technology (Bloomington, MN and Londonderry, Northern Ireland), 2005-2007 (data storage sector)
- Siemens Healthcare Diagnostics (Tarrytown, NY), 2017 (medical equipment sector)
- Southern California Edison (Rosemead, CA), 2007-2008 (utilities sector)
- U.S. Navy, Office of Naval Research (Washington, DC), 2008-2011 (ship design sector)